REMARKS

Claims 1 and 10-20 have been rejected. Claims 1, 11-17, and 19 have been amended. Claims 18 and 20 have not been amended but depend on the amended claims. The amendments clarify the operation of the claimed invention and elaborate on the claimed conversion of a document.

The Specification has been objected to by inclusion of a computer program over 300 lines in length. The Specification has been amended to delete this program from the Specification, include it as an Appendix in a compact disc, and noting so in the specification.

The drawings have been objected to as not showing the claimed subject matter. New Figures 2 and 3 have been added.

The claims have been objected to for not showing antecedent bases. The claims have been amended to address those objections.

No new matter has been added by the above amendments.

Reconsideration and allowance are respectfully requested in view of the following remarks.

Response to Objections to the Drawings

The drawings have been objected to under 37 CFR § 1.83(a). In response, new Figures 2 and 3 have been added and are attached to this Response. Figure 1 has not been changed.

Response to Objections to the Specification

A compact disc has been created containing the file program1.txt, which is

the computer code listing from pages 45 through 54 of the specification. The

computer code listing and introductory remarks have been deleted and replaced

by language referencing the computer code on the included compact disc.

Suitable language has been added to the specification on page 1 to comply with

37 CFR § 1.77(b)(5).

Response to Claim Objections

The claim objections have been corrected through the claim amendments.

Response to Rejection under 35 U.S.C. § 102

Claims 11-16 have been rejected under 35 U.S.C. § 102(e) as being

anticipated by U.S. Pat. No. 6,393,389 (Chanod).

The Examiner argues that Chanod anticipates claims 11-16 by reciting the

steps contained in these claims. Applicant respectfully disagrees. The invention

as disclosed in the amended claims 11-16 is not anticipated by Chanod because

Chanod does not manipulate the overlapping text segments and associate them

as being translations of each other.

Chanod describes an invention that merely returns translation segments

(represented by translations of the tokens), lists those segments, and ranks those

segments according to certain criteria. See e.g., Abstract and col. 3, lines 1-43.

As noted in the Abstract:

> Translation choices are obtained in the second language for a set of
> the subexpressions. A subset of the translation choices of a
> subexpression are ranked, and the ranked translation choices are
> used to produce a sequence of translation chioces for the multi-
> token expression as a whole. Information is then presented to a
> user about the sequence of translation choices....

Importantly, Chanod does describe a method that finds a translation by

comparing different segments of text that have overlapping features, as is

claimed in the present invention. Chanod does not even *attempt* to find an

accurate translation of a mult-token expression; instead, Chanod merely

describes a method that identifies and ranks translation choices. As described in

Chanod at col. 3, lines 1-8 (emphasis added):

> The invention alleviates problems resulting from the complexity of
> multi-token expressions....The invention does so based on the
> surprising discovery that the meaning of a multi-token expression
> in a first language is often indicated by appropriately chosen
> translations of subexpressions into a second language, *without*
> *attempting a complete, accurate translation of the mult-token*
> *expression.*

The lack of this feature is acknowledged by the Examiner when discussing

Chanod in the section 103 rejection: "Although Chanod teaches a method for

translating a plurality of overlapping token segments from a document, Chanod

does not teach a means for processing sentences having overlapping portions by

combining segments (sentences) having such portions." Office Action dated July 7 at page 10 (emphasis added).

The claimed invention (including that in claims 11-16) does more than merely provide a user an "approprately chosen" translation by a ranking system of many translations. The claimed invention produces an accurate translation by focusing on the overlapping portions of text in one segment, finding the appropriate portions in the second segment, and deriving the appropriate translation. This is made clear in the amended claims by the "selecting" "returning," and "association" steps in amended claim 11.

As described in the Specification at pages 42-45 and in the new Figure 2, the present invention uses an overlap technique to derive a translation. For example, it is possible to determine the translation of the phrase "In addition to my need to be loved by all the girls in town" if you only have translations for an overlapping portion of this phrase. As described in the specification, if you have translations for the phrases "In addition to my need to be loved by all the girls," and "loved by all the girls in town," the overlapped portion "loved by all the girls" common to both phrases allows a translation of the entire phrase.

The fact that Chanod mentions that tokens can be overlapping does not mean that Chanod discloses this overlapping technique to derive a translation. This has been acknowledged by the Examiner. Office Action dated July 7 at page 10.

Chanod merely indicates that a sentence might lead to overlapping complex tokens if more than one translation is returned. As discussed in Chanod at col. 14, lines 20-30:

> The lookup results...typically include more than one translation for at least one subexpression. This may occur for a number of different reasons...the subexpression may be nested within another, larger subexpression, and a lexicon may be provide one translation for the subexpression while another lexicon or a translation memory may provide another translation for the larger subexpression...or the subexpression may be a complex token that overlaps with another complex token, both of which have translations.

In other words, Chanod returns different results for the translation of a subexpression if it is a complex token that overlaps with another complex token, with both having translations. Both translations are returned to the user, and the user must choose which one to rank higher than the other and then select.

Chanod also highlights the fact that overlapping tokens are only returned results and are disfavored for the ranking system disclosed in the invention. "[O]verlapping tokens could be taken into account in selecting translations, but for greater speed or ease of implementation it can be advantageous to apply a criterion that retains only one of the overlapping tokens, such as by retaining the largest token." Chanod, col. 10, lines 62-67. In addition, Chanod describes that tokenization is "ambiguous" if the tokens overlap, and that the "best" tokenization path does selects "non-overlapping" tokens. Chanod, col. 14, lines 62-67.

Thus, Chanod only uses overlapping tokens as an incidental result of the tokenization process, only uses them to add to a list of selections to be returned to a user, and indicates that any overlapping tokenization is "ambiguous" and does not lead to a translation. As expressly indicated, Chanod does not attempt to determine a complete, accurate translation of a multi-token expression, and does not use the overlapping technique to derive a translation. The present invention does render that complete, accurate translation by favoring and manipulating overlapping segments.

Response to Rejections under 35 U.S.C. § 103

Claims 1, 10, and 17-20 have been rejected under 35 U.S.C. § 103. Claims 1, 10, and 19-20 are rejected as being obvious based on U.S. Patent No. 5,579,224 (Hirakawa) in view of U.S. Patent No. 5,311,429 (Tominaga). Claims 17 and 18 are rejected as being obvious based on Chanod in view of Tominaga. Applicant submits that these references do not, when combined, disclose the claimed invention, and the claims as amended overcome these rejections.

As for the rejection of claims 1, 10, and 19-20, the Examiner states that Hirakawa "teaches a method for translating a plurality of extracted sentences from a document...." Office Action dated July 7 at page 8. Applicant respectfully disagrees with this statement. Hirakawa takes a first langauge string, and then attempts to match that first language string to the second language string "by using the morphological analysis and the syntactic analysis." Hirakawa, col. 5,

lines 16-20. Many different results, or matches, can occur depending on the parameters of the subsequent morphological and syntactic analysis; as described in Hirakawa, information on the selected second language character string is "registered" as "registration knowledge information." Hirakawa, col. 5, lines 48-54. But these registered second language character strings are merely *candidate* character strings that are presented to the user. Hirakawa, col. 7, lines 8-15. Hirakawa does not present the second string as the translation of the first character string, but merely as one of many candidates. Moreover, Hirakawa selects its translation string as a result of rules (morphological and syntactic) to locate its relation to the first language character string.

In contrast, the present invention has already associated the a data segment in a first state with a data segment in a second state as the translation, not one of potentially many "candidates."

The Examiner also states that Tominaga "discloses a sentence processing means that combines sentences having overlapped portions into a single sentence for translation Office Action dated July 7 at page 8. Applicant respectfully disagrees with this statement. The relevant portion of Tominaga which discloses overlapping sections of text merely relates to *generating* new sentences, not using the overlapping sections to perform a translation. Figure 14 shows the "Mode 3" of the disclosed processing modes that generate sentences: "Retrieve a plurality of sentences that include the key word from the sentence file...and combine these sentences thereby to generate a new sentence."

Tominaga, col. 12, lines 50-54. This generation mandates the use of "sentence generation rules" to combine the sentences to form a new sentence. As described in Tominaga at col. 14, lines 43-52:

> In Mode 3, a plurality of sentences which include a word assigned by the user are retrieved from the sentence file 1, sentence generation rules are applied to these sentences, and theses sentences are combined together to generate a new sentence. In FIG. 14, two sentences each of which includes the same word "girl" are combined in such a way that the sentence of progressive present in 1 is combined in the form of attributive use of a present participle as an attributive phrase of "girl" in the sentence in 2.

Figure 14 shows the combination of two sentences "the girl is sitting in the front row" and "the girl is my niece" to coming to mean "the girl sitting in the front row is my niece." But this "overlap" of the phrase "the girl" is not done to perform a translation; it is done to generate a new sentence *based on sentence generation rules.*

If the overlap of the present invention were applied, the results of the overlap with the common phrase "the girl" would result in a nonsensical sentence: "the girl sitting is sitting in the front row is my niece," or "the girl is my niece is sitting in the front row." The grammatically correct sentence shown in Figure 3 as the generated sentence: "the girl sitting in the front row is my niece" is only obtained by applying rules derived from two sentences containing the same phrase.

This is a completely different context than taking two overlapping phrases and using them when combined as to perform translations without any further

processing other than the elimination of the common, overlapped text. The claims have been amended to clarify the overlapped operation.

As such, applicant believes that the cited references of Hirakawa and Tominaga cannot be combined in a manner to produce the result shown in the amended claims 1, 10, and 19-20.

As for the rejection of claims 17 and 18, the Examiner states that Chanod does not disclose the means for processing sentences having overlapping portions by combining the segments, but that Tominaga discloses such a translation processing scheme. Office Action dated July 7 at 10-11. For the reasons disclosed above in relation to the section 102 rejection based on Chanod and the section 103 rejection based on Tominaga, applicant respectfully suggests that the combination of these references does not render amended claims 17 and 18 obvious. As discussed above, Tominaga does not operate to overlap the sentences to return a translation *unless* the overlap is accompanied by grammatical and other rules to make sense out of the returned, overlapped sentence. Amended claims 17 and 18 clearly indicate that the operation does not depend on these generation rules.

Conclusion

All of the stated grounds of objection and rejection have been properly

traversed, accommodated, or rendered moot. Applicant therefore respectfully

requests that the Examiner reconsider all presently outstanding objections and

rejections and that they be withdrawn. Applicant believes that a full and

complete reply has been made to the outstanding Office Action and, as such, the

present application is in condition for allowance. If the Examiner believes, for

any reason, that personal communication will expedite prosecution of this

application, the Examiner is invited to telephone the undersigned at the number

provided.

Prompt and favorable consideration of this Amendment and Response is

respectfully requested.

Respectfully submitted,
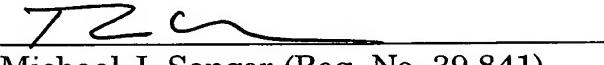
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